| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/888,166 | 06/25/2001 | Chun-Ching Lin | 200-0497/24061.330 | 8185 |

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HAYNES AND BOONE, LLP
901 MAIN STREET, SUITE 3100
DALLAS, TX 75202

| EXAMINER |
|---|
| NGUYEN, MERILYN P |

| ART UNIT | PAPER NUMBER |
|---|---|
| 2163 | |

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|---|---|
| 06/15/2007 | PAPER |

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

PTOL-90A (Rev. 04/07)

| | Application No. | Applicant(s) |
|---|---|---|
| **Office Action Summary** | 09/888,166 | LIN ET AL. |
| | Examiner | Art Unit | |
| | Merilyn P. Nguyen | 2163 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

1)☒ Responsive to communication(s) filed on *05/14/2007*.

2a)☐ This action is **FINAL**.     2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

4)☒ Claim(s) *1-27* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-27* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

## Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *05 March 2007* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application

6)☒ Other: *Detailed action*.

## DETAILED ACTION

1.      In response to the communication dated 05/14/2007, claims 1-27 are active in this office

action.

## *Continued Examination Under 37 CFR 1.114*

2.      A request for continued examination under 37 CFR 1.114, including the fee set forth in

37 CFR 1.17(e), was filed in this application after final rejection.  Since this application is

eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e)

has been timely paid, the finality of the previous Office action has been withdrawn pursuant to

37 CFR 1.114.  Applicant's submission filed on 03/05/2007 has been entered.

## *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the

basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3.      Claims 1, 2, 4, 6-12, 14-15, 17, 20-24 and 26-27 are rejected under 35 U.S.C. 102(b) as

being anticipated by Martin (US 6,029,178).

Regarding claim 1, Martin discloses a computer-based method of data replication of data

in a programmable computer system (See col. 5, lines 10-66) comprising the steps of:

- polling a transaction log file (See col. 12, lines 6-16) of a non-relational database

   ("non-relational source database", col. 15, lines 3-5) of a proprietary system (Fig. 7 or

8) at a time interval ("scheduled", See col. 17, lines 43-58) for file transactions of the

non-relational database ("Change data is applied to a source database...captures the

change data...stores...EDM log", See col. 18, lines 10-30) by at least one data

replication server not running the non-relational database (EDM server 804A, Fig.

26);

- responsive to detecting file transactions of the non-relational database, reading the file

  transactions from the transaction log file of the non-relational database by the at least

  one data replication server (See col. 12, lines 33-44, and col. 18, lines 31-35, and col.

  19, lines 38-49);

- determining if the file transactions read from the transaction log file indicate a change

  in the non-relational database based on a record type of the file transactions, wherein

  the record type is one of a delete, put, and update record (See col. 5, lines 22-25 and

  35-58, and col. 22, lines 8-25 and 47-57 and col. 28, line 64 to col. 29, line 25,

  wherein a change in the non-relational database is based on the edition level values,

  the edition level values indicate if the target database need to be updated, the edition

  level values is stored in a change record (update record) along with changed data and

  other information); and

- if the file transactions read from the transaction log file indicate a change in the non-

  relational database, sending the file transactions from the at least one data replication

  server to at least one relational database (See col. 12, lines 54-65, col. 15, lines 2-24,

  col. 18, lines 31-35 and col. 19, lines 62-66), wherein the file transactions of the non-

  relational database sent to the at least one relational database are accessible in real

time (See col. 23, lines 45-54, wherein changed data is propagated/moved to target

database at a 24 hour 7 days a week process, thus file transactions are accessible in

real time. Please see also col. 8, lines 18-23, 44-48 and 54-57).

Regarding claims 2 and 15, Martin discloses wherein the file transactions sent from the at

least one data replication server to the at least one relational database are sent via respective

relational database connections utilizing a relational database access protocol (See col. 15, lines

57-60).

Regarding claims 4 and 17, Martin discloses wherein the reading step comprises:

- retrieving a configure file indicating from which table of the non-relational

  database is data to be replicated and to which of the at least one relational

  database is data to be replicated (See col. 15, lines 25-31);

- initializing a configure value (See col. 15, lines 33-42); and

- connecting to the at least one relational database (See col. 15, lines 33-42).

Regarding claim 6, Martin discloses determining from the configure file if each of the file

transactions is to be at least one of deleted, put, and updated in the at least one relational database

(See col. 5, lines 27-58).

Regarding claims 7, 20 and 27, Martin discloses the at least one relational database (See

Fig. 10, DBMS Target including DB2, Oracle, Sybase, and Informix SQL server) is updated by

more than one data replication server (file servers 104) at a time (See col. 8, lines 15-39 and col.

12, lines 53-54, and col. 19, line 62 to col. 20, line 3, wherein one or more of the file systems 104

may store its own database which is desired to be replicated among various of the other file

servers).


Regarding claims 8 and 21, Martin discloses wherein the at least one relational database

is accessible using an end user query tool (See col. 15, lines 33-35).


Regarding claims 9 and 22, Martin discloses wherein the at least one relational database

generates at least one real time report (See col. 29, lines 26-35).


Regarding claims 10 and 23, Martin discloses wherein reading step is performed using at

least one data extraction function of the proprietary system (Extract block 202, Fig. 2 and

corresponding text).


Regarding claims 11 and 26, Martin discloses sending a real time equipment status from

the at least one data replication server to the at least one relational database (See col. 23, lines

46-60).


Regarding claims 12 and 24, Martin discloses change in the non-relational database

comprises a change in a field of a table of the non-relational database (See col. 10, lines 30-43).

Regarding claim 14, Martin/Dingman discloses a data processing computer-based system

(See Figs. 1-4 and Figs. 12-13) having polling means, reading means and sending means for

polling, reading and sending steps of claims 1.

## *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
> section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
> such that the subject matter as a whole would have been obvious at the time the invention was made to a person
> having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the
> manner in which the invention was made.

4.      Claims 3 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Martin

(US 6,029,178), in view of Applicant's Admitted Prior Art (Specification page 8, last paragraph,

line 6 to page 9, begin with "the relational database connections 26" and end with

"respectively").

Regarding claims 3 and 16, discloses all the claim subject matter as set forth above in

claims 1 and 14. However, Martin is silent as to the at least one relational database being

relational database selected from the group consisting of: an Engineer Data Analysis (EDA)

relational database, and a Manufacture Execution System (MES) relational database. Applicant

admits that an EDA relational database, a MES relational database was known at the time the

invention was made. Since an Engineer Data Analysis (EDA) relational database, and a

Manufacture Execution System (MES) relational database was readily available, it would have

been obvious to one having ordinary skill in the art at the time of the invention was made to use

the well known EDA relational database, MES relational database as disclosed by Applicant's

Admitted Prior Art as the relational database of Martin. The resultant use of the EDA relational

database, the MES relational database would have performed the intended (by Martin) function,

without undue experimentation and with expected and obvious result (See applicant's

specification, page 8, last paragraph, line 6 to page 9, "the relational database connections

26...respectively").


5.      Claims 5, 13, 18, 19 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable

over Martin (US 6,029,178), in view of Draper (US 6,192,365).

        Regarding claims 5 and 18, Martin discloses all the claimed subject matter as set forth

above and further teaches opening the transaction log file (See col. 19, lines 38-49, Martin et al.).

However, Martin is silent as to retrieving a last applied transaction log sequence number from a

last update file and locating a last applied record based on the last applied transaction log

sequence number. On the other hand, Draper teaches retrieving a last applied transaction log

sequence number from a last update file and locating a last applied record based on the last

applied transaction log sequence number (See col. 37, lines 13-22, Draper et al.). It would have

been obvious to one having ordinary skill in the art at the time of the invention was made to

include transaction log sequence number into the system of Martin and locating a last applied

record based on the last applied transaction log sequence number as taught by Draper. The

motivation would have been to enable to restore prior versions of data using log sequence

number.

Regarding claim 19, Martin/Draper discloses wherein determining step comprises:

- retrieving a next transaction record;

- determining if a record type of the next transaction record is one of a delete, put, and update; and

- determining from the configure file if the next transaction record is to be at least one of deleted, put, and updated in the at least one relational database.

See col. 5, lines 35-66, Martin et al.

Regarding claims 13 and 25, Martin/Draper discloses wherein the determining step further comprises writing the transaction log sequence number to the last update file (See col. 37, lines 13-22, Draper et al.).

### *Response to Arguments*

6.      Applicant's arguments filed 03/05/2007 have been fully considered but they are not persuasive.

**Response to Applicants remarks on 35 USC § 102(e) rejection as anticipated by Martin:**

*Applicants argue:*

Martin does not teach, "determining if the file transactions read from the transaction log file indicate a change in the non-relational database based on a record type of the file transactions, wherein the record type that is one of delete, put, and update record".

*Examiner responds:*

Examiner is not persuaded. Examiner point out that, Martin col. 5, lines 22-25 and 35-58, and col. 22, lines 8-25 and 47-57 and col. 28, line 64 to col. 29, line 25 teaches this limitation, wherein a change in the non-relational database is based on the edition level values, the edition level values indicate if the target database need to be updated, the edition level values is stored in a change record (update record) along with changed data and other information.

**Response to Applicants remarks on 35 USC § 103(a) rejection as being unpatentable over Martin and further in view of the alleged Applicant's admitted prior art:**

In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.,* 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

In response to applicant's argument, *a prima facie case of obviousness* is established when the teachings from the prior art itself would appear to have suggested the claimed subject matter to a person of ordinary skill in the art. Once such a case is established, it is incumbent upon appellant to go forward with objective evidence of unobviousness. In re Fielder, 471 F.2d 640, 176 USPQ 300 (CCPA 1973).

Examiner uses the alleged Applicant's admitted prior art to show the obviousness of the different types of relational databases. Thus, types of relational databases are non-functional descriptive material; therefore a prima facie case of obviousness is established.

**Response to Applicants remarks on 35 USC § 103(a) rejection as being unpatentable over Martin and further in view of Draper:**

*Applicants argue:*

Drapper does not teach "determining if the file transactions read from the transaction log file indicate a change in the non-relational database based on a record type of the file transactions, wherein the record type that is one of delete, put, and update record".

*Examiner responds:*

Examiner is not persuaded.

In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

## *Conclusion*

7.      Any inquiry concerning this communication or earlier communications from the examiner should be directed to Merilyn P Nguyen whose telephone number is 571-272-4026.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Don Wong can be reached on 571-272-1834. The fax phone numbers for the organization where this application or proceeding is assigned are 571-273-8300 for regular communications and 703-746-7240 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.
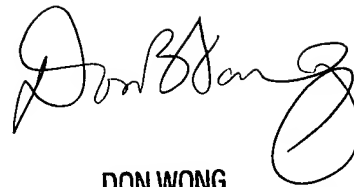
MN
June 4, 2007

DON WONG
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100